

RECEIVED
CENTRAL FAX CENTER

JUN 14 2007

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-37. (Cancelled)

38. (Currently amended) A method for detecting the presence of micromolar amounts a toxicant ~~comprising a metal atom~~ in an aquatic, terrestrial, gaseous or industrial environmental sample, wherein the toxicant is a metal atom, said method comprising contacting said sample putatively containing said toxicant with a nucleic acid molecule intercalated with a fluorescent dye; and screening for either dissociation of binding between said nucleic acid molecule and said dye, wherein said dissociation or inhibition of binding is indicative of the presence of said toxicant.

39-41. (Cancelled)

42. (Previously Presented) A method according to Claim 38, wherein the metal atom is a heavy metal or a heavy metal ion.

43. (Previously Presented) A method according to Claim 38, wherein said fluorescent dye is selected from the group consisting of acridine orange and ethidium bromide.

44. (Currently amended) A method according to Claim ~~38~~46, wherein said ~~nucleic acid molecule is immobilized to a substrate comprising~~ comprises glass, polystyrene, polymethacrylate, cellulose, nylon, polyvinylchloride or polypropylene.

45. (Previously presented) A method according to Claim 44 wherein said substrate is polystyrene or polymethacrylate.
46. (New) A method according to Claim 38, wherein said nucleic acid molecule is immobilized to a substrate.
47. (New) A method for detecting the presence of a toxicant comprising a metal atom in an aquatic, terrestrial, gaseous or industrial environmental sample, said method comprising contacting said sample putatively containing said toxicant with a nucleic acid molecule intercalated with a fluorescent dye; and screening for either dissociation of binding between said nucleic acid molecule and said dye, wherein said dissociation or inhibition of binding is indicative of the presence of said toxicant.